



**ENGINEERING OPERATIONS COMMITTEE
MEETING MINUTES
MARCH 2, 2000 - 9:00 A.M.
EXECUTIVE CONFERENCE ROOM**

Present: C. T. Maki G. D. Taylor J. D. Culp
C. Roberts P. F. Miller J. D. O'Doherty
T. E. Davies T. Fort M. H. Frankhouse
S. Bower

Guests: D. L. Smiley C. Bleech J. T. LaVoy
M. Bott

OLD BUSINESS

1. Approval of the Minutes of the January 6, 2000, Meeting - C. T. Maki

Minutes of the January 6, 2000, meeting were approved as written.

2. Pavement Committee - S. Bower/T. E. Davies

A draft Pavement Committee Guidance Document (attached) was presented by Steve Bower. The committee will address issues related to pavement design, pavement selection, pavement materials, pavement construction, and pavement research. The committee will be the primary standing subcommittee to EOC that both recommends and implements department pavement policies. The committee will also be responsible for reviewing and approving the use of innovative/new pavement designs (fixes) and materials for MDOT projects in the department's Capital Preventive Maintenance, Rehabilitation/Reconstruction and New Road Programs. The committee will also assume the responsibilities of two former EOC subcommittees: Pavement Selection Review Committee and the Bituminous Advisory Committee. Committee membership will be as follows:

Lansing Office - Pavement Engineer (Steve Bower)
Pavement Research Engineer (Dave Smiley)
Pavement and Roadside Engineer (Larry Galehouse)
Bituminous Construction Engineer (Mike Frankhouse)
Concrete Construction Engineer (John LaVoy)
Local Agency Programs Engineer

Regions - Three representatives from the regions with experience in pavement design and construction (one each from Superior/North, Grand/Bay/Southwest and University/Metro).

Chair - Steve Bower was appointed by EOC. Future chair responsibility will be rotated.

Reporting Relationship to EOC -

The Pavement Committee will report activities and recommendations to EOC on a regular basis. Plan to meet bi-monthly as a minimum, more often on an as needed basis.

ACTION: Recommendation approved (new EOC membership list attached).

NEW BUSINESS

1. **MDOT's Comprehensive Cantilever and Truss Sign Support Inventory Database - C. Roberts**

Recommendation made to assign each project engineer the responsibility of notifying the Lansing Maintenance Division on completion of all cantilever and truss sign support work. Maintenance will keep the statewide data base updated based on these notifications.

ACTION: Recommendation approved. The Maintenance Division will set up a Bureau of Highway Instructional Memorandum to inform TSC managers and project engineers of this responsibility.

2. **Approval of Revisions to the Department's Sign Support Typical Plans - J. D. O'Doherty/M. Bott**

Standard plans have been revised for sign support typical plan. Proposed to EOC for approval prior to distributing.

ACTION: Approved. The Traffic and Safety Division will distribute to the appropriate Lansing and region staff, and consultants.

3. **Approval of Revisions to the Department's Temporary Traffic Control for Construction Areas Typicals-Metric - J. D. O'Doherty/M. Bott**

Revisions to the department's Temporary Traffic Control for Construction Areas Typicals (Metric) were submitted for approval.

ACTION: Approved. The Traffic and Safety Division will distribute to the appropriate Lansing and region staff, and consultants.

4. **Pavement Selection: Old M-14 Reconstruction, CS 82101, JN 49401 - S. Bower/C. Bleech**

A Life Cycle Cost Analysis was performed on the two rehabilitation alternates: Alternate 1, flexible bituminous pavement, and Alternate 2, jointed plain concrete pavement.

The Pavement Selection Review Committee reviewed the analysis and recommends that Alternate 1, which as the lowest Equivalent Uniform Annual Cost be approved by EOC.

Alternate 1 is approved. The pavement design and cost analysis are as follows:

38 mm	Bituminous Mix 5E3, Top Course
51 mm	Bituminous Mix 4E3, Leveling Course
91 mm	Bituminous Mix 3E3, Base Course
160 mm	Aggregate Base
460 mm	Sand Subbase
150 mm	Subbase Underdrains

Present Value Initial Construction Costs	\$434,009/Kilometer
Present Value Initial User Costs	\$34,446/Kilometer
Present Value Maintenance Costs	\$161,732/Kilometer

Equivalent Uniform Annual Cost	\$34,847/Kilometer
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5. **Pavement Selection: US-131 Reconstruction, CS 41131, JN 33333/47542 - S. Bower/C. Bleech**

A Life Cycle Cost Analysis was performed on the two rehabilitation alternates: Alternate 1, flexible bituminous pavement, and Alternate 2, jointed plain concrete pavement.

The Pavement Selection Review Committee reviewed the analysis and recommends that Alternate 2, which as the lowest Equivalent Uniform Annual Cost be approved by EOC.

Alternate 2 is approved. The pavement design and cost analysis are as follows:

280 mm	Jointed Plain Concrete Pavement (4.5m jt spacing) (Mainline & Outside Shld'r)
220 mm	Jointed Plain Concrete Pavement (4.5m jt spacing)(Inside Shld'r)
100 mm	Open Graded Drainage Course
100 mm	Aggregate Separator (21AA)
150 mm	Open Graded Underdrains
300 mm	Sand Subbase

Present Value Initial Construction Costs	\$505,719/Kilometer
Present Value Initial User Costs	\$407,347/Kilometer
Present Value Maintenance Costs	\$107,486/Kilometer
Equivalent Uniform Annual Cost	\$55,027/Directional Kilometer

6. **Pavement Selection: M-6 New Construction, CS 41064, JN 33333 - S. Bower/C. Bleech**

A Life Cycle Cost Analysis was performed on the two rehabilitation alternates: Alternate 1, flexible bituminous pavement, and Alternate 2, jointed plain concrete pavement.

The Pavement Selection Review Committee reviewed the analysis and recommends that Alternate 2, which as the lowest Equivalent Uniform Annual Cost be approved by EOC.

Alternate 2 is approved. The pavement design and cost analysis are as follows:

280 mm ..	Jointed Plain Concrete Pavement (4.5m jt spacing) Freeway Shoulder Option
100 mm	Open Graded Drainage Course
100 mm	Aggregate Separator
150 mm	Open Graded Underdrains
300 mm	Sand Subbase

Present Value Initial Construction Costs	\$328,805/Kilometer
Present Value Initial User Costs	NA
Present Value Maintenance Costs	\$71,658/Kilometer
Equivalent Uniform Annual Cost	\$21,673/Directional Kilometer

7. **Pavement Selection: US-24 Reconstruction, CS 82271/82052, JN 47063/47061 - S. Bower/ C. Bleech**

A Life Cycle Cost Analysis was performed on the two rehabilitation alternates: Alternate 1, flexible bituminous pavement, and Alternate 2, jointed reinforced concrete pavement.

The Pavement Selection Review Committee reviewed the analysis and recommends that Alternate 2, which as the lowest Equivalent Uniform Annual Cost be approved by EOC.

Alternate 2 is approved. The pavement design and cost analysis are as follows:

240 mm	Jointed Reinforced Concrete Pavement (8m jt spacing)
140 mm	Bituminous Shoulders (4C and 3C) (I-75 Conn.)
114 mm	Open Graded Drainage Course Geotextile Separator

150 mm Open Graded Underdrains
254 mm Existing Sand Subbase

Present Value Initial Construction Costs \$348,837/Kilometer
Present Value Initial User Costs \$140,924/Kilometer
Present Value Maintenance Costs \$98,650/Kilometer

Equivalent Uniform Annual Cost \$31,726/Directional Kilometer

8. **Pavement Demonstration Project for 2001 - S. Bower**

Informational discussion on the FY 99-2000 budget bill, Senate Bill 372, Section 333, which requires the department to conduct a pavement demonstration project to explore ways for increasing pavement life expectancy. Steve Bower is leading a group looking at alternatives for both bituminous and concrete pavements. A research monitoring plan is being developed by Dave Smiley. The demonstration project will be included in a December 2000 letting of a project on M-39 (I-94 to Ford Road) in Metro Region. Specific details will not be decided until the life-cycle-cost analysis is done and the pavement type is selected.

(Signed Copy on File at C&T/Secondary)
Jon W. Reincke, Secretary
Engineering Operations Committee

JWR:JDC:kat

Attachments

cc: EOC Members
Region Engineers

J. R. DeSana	R. J. Risser, Jr. (MCPA)	L. Stornant	T. L. Nelson
R. J. Lippert, Jr.	A. C. Milo (MRBA)	J. Ruszkowski	R. D. Till
D. L. Smiley	J. Becsey (MAPA)	C. Libiran	M. Frierson
M. Nystrom (AUC)	D. Hollingsworth (MCA)	G. J. Bukoski	C. W. Whiteside
M. Newman (MAA)	J. Steele (FHWA)	K. Rothwell	T. E. Myers
J. Murner (MRPA)			

Pavement Committee Guidance Document

- I. Purpose:
To define the authority, organization, and operational procedures of the Pavement Committee.
- II. Authority:
Represents the Engineering Operations Committee (EOC) on technical matters related to pavements; including their related materials, design, construction and maintenance. Technical matters related to changes in department policies and operational procedures will require EOC approval.
- III. Organization:
The Pavement Committee will have ten members, consisting of six permanent Lansing representatives, three rotating Region representatives, and one Federal Highway Administration representative.

Region representatives will rotate membership on a two year cycle. The committee Chair will rotate biannually among the six permanent Lansing members according to the order listed:

Lansing- Pavement Engineer
 Pavement Research Engineer
 Pavement & Roadside Engineer
 Bituminous Engineer
 Concrete Engineer
 Local Agency Programs representative

Regions - Three Region representatives (Superior/North, Grand/Bay/Southwest, and University/Metro) with experience in pavement matters .

A committee secretary will be appointed by the Chairman to record and distribute committee proceedings. The committee Chair will be responsible for distributing a meeting schedule and meeting agenda.

Meetings will be held bimonthly or as directed by the committee Chair.

- IV. Responsibilities:
 - a) Develop, recommend and implement new policies and procedures relating to pavements.
 - b) Approve supplemental specifications and original special provisions relating to pavements, when deemed appropriate by a committee member or the Engineer of Specifications.
 - c) Oversee all studies, investigations and future performance monitoring of innovative pavement designs or material products involving Department pavement projects.
 - d) Recommend and approve research projects for pavements and their related materials, including their eventual findings and recommendations for possible implementation.



2000 ENGINEERING OPERATIONS COMMITTEE MEMBERSHIP

Name	Region/Division	Telephone Number	Fax Number	Secretary
C. T. Maki, Chairperson	Executive	517-373-4656	517-335-2785	Vanessa Blaxton
G. D. Taylor	Bureau of Highway Technical Services	517-373-1884	517-335-2813	Bonnie Jay
J. D. Culp	Construction & Technology	517-322-1085	517-322-5664	Kathy Trentham
C. Roberts	Maintenance	517-322-3390*	517-322-2699*	Jenny Hutchinson
P. F. Miller	Design	517-373-0030	517-335-2731	Dorothy Rowe
J. D. O'Doherty	Traffic & Safety	517-373-2326	517-373-2330	Shirley Teachout
T. E. Davies	University Region	517-780-7512*	517-780-7825*	Mary Carl
J. W. Reincke, Secretary	Construction & Technology	517-322-1632	517-322-5664	Chris Helmer
T. Fort	FHWA	517-377-1880* Ext 42	517-377-1804*	
S. Bower, Chair, Pavement Committee	Design	517-373-0551	517-335-2731	Judy McNea

*Not a Centrex Number

March 2000